Assessment of COPD exacerbation severity with the COPD Assessment Test

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Exacerbation severity in patients with chronic obstructive pulmonary disease (COPD) can be reliably assessed with the COPD Assessment Test (CAT), according to a new study from the UK.

"There is currently no widely accepted standardized method for assessing symptom severity at exacerbations in COPD patients," said Dr Alex J Mackay, MBBS, MRCP, clinical research fellow at the Academic Unit of Respiratory Medicine, University College London. "Incorporating CAT scores into the assessment of COPD patients may provide a standardized, objective method for assessing symptom severity in both clinical practice and clinical trials."

The findings were published online ahead of print publication in the American Thoracic Society's *American Journal of Respiratory and* Critical Care Medicine.

The study involved 161 COPD patients who completed the eight-item CAT questionnaire at least once under supervision at the clinic. The CAT was also completed by 75 patients during 152 treated COPD exacerbations. The CAT is a validated health status questionnaire that has been successfully used in previous studies to measure COPD symptoms in both primary and secondary care settings. It includes questions assessing cough, phlegm, chest tightness, breathlessness, activity limitations, sleep, and energy levels.

Frequent exacerbators (≥2 exacerbations per year) had significantly

higher baseline CAT scores than infrequent exacerbators. CAT scores in the 152 exacerbations assessed rose significantly from an average baseline value of 19.4±6.8 to a value of 24.1±7.3 at exacerbation. Change in CAT score from baseline to exacerbation onset was weakly but significantly related to change in CRP but not to change in fibrinogen. Rises in CAT score at exacerbation were significantly associated with falls in forced expiratory volume in one second (FEV1). Median recovery time, as determined using symptom diary cards, was significantly related to the time needed for CAT scores to return to baseline.

"In our patients with COPD, CAT scores reflected exacerbation severity, as measured by both exacerbation length and reduction in lung function," said Dr. Mackay. "CAT scores at exacerbation were also weakly related to systemic inflammatory markers and were elevated in stable patients with a history of frequent exacerbations. Our results indicate that the CAT can be used as a score of the multi-dimensional nature of COPD exacerbation severity."

"The CAT is validated, free, and easy to administer, and can be easily incorporated into the usual care of patients with COPD at no additional cost," concluded Dr. Mackay. "It may also be useful in clinical trials as an objective measure of new interventions aimed at reducing exacerbation severity. Since our results indicate that CAT scores may reflect levels of systemic inflammatory markers, albeit weakly, this finding may have particular relevance in clinical trials of anti-inflammatory therapeutic agents in COPD. "

Provided by American Thoracic Society

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